

larval and adult shells increase in size with depth into the abyss. They suggested that the decreased input of nutrients into these deep waters will select for the larger specimens that would have a competitive or metabolic advantage. Whether this is accurate or not, it is clear that location plays a significant role in size distribution. Chincoteague and Assateague are in the Boreal province and Virginian subprovince. The region offers a wide array of temperate marine and estuarine habitats that are not as warm as those to the south or as seasonally cool as those to the north. While not a delineated provincial zone, this region offers a blend or transition between the Carolinian province and the Boreal. Although Cape Hatteras is the identified division between these provinces, temporal variations in the Gulf Stream can bring decisively Carolinian fauna up along Assateague. Similarly, shifts in the Labrador Current can bring cooler water species south. Such displaced species are common along northern coastal Virginia and southern Maryland (see list of range extensions; also note that during these collections several species of semitropical fish [e.g., *Chaetodon*] were found along our field sites). Does the integrative nature of this region influence growth rates or longevity as well as allowing an out-of-range existence?

The possibility, in all studies that reveal "gigantism," that sampling artifact plays a role cannot be overlooked. It is easy to envision an artificial selection of larger specimens in any collection. Here, however, our collections were over many years, and the "giants" included species that are considered uncommon in the region (e.g., *Lyonsia hyalina*, *Chaetopleura apiculata*). The extensive sampling (in terms of number of individuals doing the surveys plus time allotments) would certainly have revealed larger populations of these species through time. In most cases, the specimens of a particular species, large or not, were only rarely collected. Smaller specimens of the same species were equally atypical in these communities. Along the opposite spectrum, Prezant (1979, 1981) reported a "dwarfed" population of *Lyonsia hyalina* from Nahant Bay, Massachusetts. This population was composed of significantly smaller individuals, averaging half or less the size of those from more southerly populations (e.g., Cape Cod). The exact reason for this smaller size was not determined; however, the Nahant population was consistently infected with dense populations of coccidia that almost occluded the proximal limbs of their kidneys. In this case, as opposed to the "gigantism" apparently induced by trematode-infected *Hydrobia* (Gorbushin, 1997), it is possible that a parasitic infestation reduced maximum growth attained.

High seasonal primary productivity, coupled with the large array of protected natural and manmade habitats, offers conditions for a rich and stable food supply. The question then is, at least in part, not why a few species in this region have a few specimens that are large, but why the hundreds of other species lack these unusually

large representatives and why so few within a population grow to unusually large sizes? Aside from the obvious ease with which the larger specimens are found, the answer probably rests with a few genetic anomalies confined within overall genetic constraints.

Acknowledgments. This research was funded in part by Department of Interior, National Park Service Cooperative Agreement No. 400-4-3007, "Inventory of Marine/Estuarine Benthic Invertebrate Communities, Assateague Island National Seashore, Maryland." We especially thank Carl Zimmerman of the National Park Service for his extensive support during this project. We gratefully acknowledge the tremendous field and/or laboratory efforts of Heather Bennett, Matthew Tieger, Matthew Foradori, Sonya Skoog, Andrew Reed, Michel Cupples, Brandon Repko, Janet Schultz, Justin Foley, Matthew Vasil, Alexis Gray, Paul Dolderer (all IUP students), Jack Kumer, Elaine Furbish, Michael Klensch, Sheila Pfalzer, Denise Ernst, Michele Juliano, Charles Oshaben, Sherrie Thomas, Scott Hoeninghausen, Rose Railey, Karen Rota, Brendan Williams, William Huslander, Phil Heckman, Cheryl Hightower, Allison Turner, Gary Ludwig and Cyndi Smialek (all associated with the National Park Service). We also thank all the students of BI 481, Biology of Mollusks, taken at the Marine Science Consortium, Wallops Island, Virginia. Paula Mikkelsen kindly helped update our molluscan taxonomy. Our thanks to Barry Roth who helped make this a much better manuscript. This work is dedicated to the late Mr. Phil Parker, expert and enthusiastic captain of the various ships from the Wallops Island Marine Science Consortium. Phil always made our expeditions enjoyable and our research a richer experience.

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NOTES, INFORMATION & NEWS

The Century's Finest

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At the beginning of the last century the malacological world was privileged to have an array of distinguished practitioners. William H. Dall and Paul Bartsch at the Smithsonian Institution, Henry A. Pilsbry at the Academy of Natural Sciences in Philadelphia, Harold Heath at Stanford University, S. Stillman Berry in Redlands, California, and numerous others led the way in describing the living and fossil molluscan fauna of North America. These workers ultimately described over 10,000 taxa, and their efforts capped what might be thought of as the "Golden Age" of American malacology. However, the most influential malacologist of the twentieth century would not be born for another 40 years. In contrast, he would describe only a handful of taxa in a career that spanned the last half of the century, but there is no denying the import of his contributions to the field of malacology and far beyond.

Stephen Jay Gould was born on September 10, 1941, in Queens, New York. Like many students of natural history his fascination with organisms began at an early age, and the dinosaur exhibit in the American Museum of Natural History in New York was a favorite destination. Steve obtained his undergraduate degree in Geology at Antioch College, and went on to graduate work at Columbia University, receiving his Ph.D. in 1967. However, the question he chose for his dissertation was not in deep time but rather in the shallow sand dunes of Bermuda. Steve had become fascinated by the diversity of land snails there and in the Bahamas and he sought to understand their insular evolutionary patterns. Papers on *Poecilozonites* and *Cerion* soon followed, many co-authored with David Woodruff. In 1984, Steve described his first two species—the Giant and Dwarf Smokestack *Cerion* (*Cerion excelsior* Gould, 1984a, and *Cerion caminus* Gould, 1984a, respectively).

From his study of Bahaman land snails Steve noticed that morphological evolution in *Poecilozonites* was not gradual: rather, large changes appeared suddenly, and these morphological reorganizations were short lived in the fossil record and followed by another period of stasis. Another Columbia University graduate student had noticed a similar pattern in the diversification of trilobites, and after comparing notes they joined forces as Eldredge & Gould (1972) to unleash punctuated equilibrium on a paleontological world unaware of its reliance on a cloven hoof print of theory—gradualism. To be certain, the pres-

ence of stasis in the fossil record had been noticed much earlier (e.g., Dall, 1877), but rather than eschew it as artifact (or use it to argue against Darwinian evolution), Eldredge and Gould embraced it as the fossil signature of allopatric speciation and extended its implications into macroevolution theory.

In 1977 *Ontogeny and Phylogeny* was published. This seminal volume recovered the baby that had been thrown out with Haeckel's bathwater, and foreshadowed the resurgence of the field of evolutionary development. It also had a profound influence on a cohort of graduate students who read the book in seminars across the country. Molluscan examples were scattered throughout the text, including Ockelman's (1964) study of small insular bivalves, Stanley's (1972) progenetic transitions in bivalve habits, Hoagland's (1975) dissertation work on life history evolution in *Crepidula*, as well as Steve's own work on *Poecilozonites* and *Cerion*.

It is not surprising that mollusks also figured prominently as study organisms among Steve's students. These students included Warren Allmon (1988) who investigated heterochrony in the evolution of *Turritella* shell morphology, Dana Geary (1986) who studied a Late Miocene radiation of melanopsid gastropods, and Jane Rose (1990) who examined the relationship between ecology and variation in *Cerion*. Many of his students' themes were familiar, the relationships between ontogeny and phylogeny, and comparisons of punctuated vs. gradual patterns of diversification. Where necessary, there was a sophisticated array of statistical and multivariate analyses to quantify morphology and search for patterns through time. Steve often had an impressive multivariate methodology in his own work (e.g., Gould, 1967, 1970, 1984b) and his rigorous quantitative approach was mirrored in the work of many of his students.

It is also well known that Steve was not a "computer geek," and many obituaries have commented on his avoidance of word processors and POP3 compliant programs. I also doubt that Steve ever navigated PAUP* or MacClade, but his own personal aversions never limited his students' research programs; for example phylogenetic analyses were prominent in the work of Morris (1991) and Yacobucci (1999).

Mollusks also served as exemplars in Steve's column "This View of Life" that appeared in the pages of *Natural History Magazine*. His commentaries dealt with natural history issues that ranged from hens' teeth to the dating of the beginning of the millennium; and mollusks often graced those pages as well. In fact, the story of an extinct little limpet once even found its way into a column! However, the importance of those articles (and their